Installation/Operating Instructions

220V AeroLift 50/150 by Draper

⚠Caution:

① Read instructions completely before proceeding. Follow instructions carefully. Installation contrary to instructions invalidates warranty.
② Do not obstruct operation of AeroLift 50/150 with fingers or any other object. Serious injury or damage could result.
③ It is not uncommon to overheat the motor during initial installation when setting limits. The motor is thermally protected and will stop working temporarily. DO NOT physically pull the unit down when this occurs. Once it has cooled to a safe temperature, it will begin operating again.
④ The AeroLift 50 and 150 are designed to accommodate ceiling suspended equipment. Equipment should not be allowed to rest on ceiling closures during operation (see "Installing Projector").
⑤ Entire bottom of unit must be unobstructed to permit proper operation.
⑥ Unit must be installed level (use a carpenter's level).
⑦ Unit operates on 220V AC current.

Note: *Unit has been thoroughly inspected and tested at factory and found to be operating properly prior to shipment.*

Planning

① Based on screen location and projector specifications, determine proper position for projector installation.
② Confirm that there is adequate space for installation and operation. Minimum clearance above ceiling level varies according to height of projector, projector mounting bracket, optional ceiling closure and optional Environmental Air Space Housing.
③ Arrange to provide service access to the unit.
④ Total maximum capacity of AeroLift 50 is 23 kg.; capacity for AeroLift 150 is 68 kg., including closure, projector and bracket.

As Soon As AeroLift Arrives

① Open carton and inspect for damage.
② Locate the following parts:
A. The unit itself
B. Controls
C. Any optional equipment
③ Test lift prior to installation.

Hanging Unit

The AeroLift is provided with four (4) mounting angles for suspending or direct mounting the unit from above, or direct mounting from the sides. These angles provide up to 38 mm of adjustment (side to side). The unit should be guy wired or blocked to prevent swinging. All installations should observe the following guidelines:

① Installer must ensure that all fasteners and supports are of adequate strength to securely support AeroLift 50/150 and projector. It is recommended that hardware structure be able to hold at least four times the combined weight of the lift, projector, Environmental Air Space Housing, closure and ceiling material attached to closure.

⚠Caution: DO NOT hang from, "ride" or pull down on the unit. This could create a failure and cause damage and/or injury.

② Fastening methods must be suitable for mounting surface, and securely anchored so vibration or abusive pulling on unit will not weaken installation.
③ Bottom of unit must be unobstructed after installation. Sufficient clearance must be allowed below projector or optional ceiling closure.
④ Do not use unit to support adjacent ceiling, light fixtures, etc.
⑤ Do not complete the ceiling below unit until electrical connections have been completed and unit has been operated successfully.
⑥ Use slots on the projector plate and on the closure to adjust the unit to ensure proper alignment of ceiling closure relative to ceiling opening.

Electrical Connections

Unit operates on 220V AC current. The AeroLift 50 and 150 are shipped closed, with a temporary field connection provided in the form of a pigtail temporarily wired to the unit. After hanging the unit, make sure power is off and use this pigtail to temporarily connect the unit to power and to a switch, so the unit can be lowered to allow access inside.

Please note: Make sure electrical supply has been disconnected before attempting to connect AeroLift to electricity.

Terminal strip for field connections is located inside a junction box on the end of the unit. Unit is shipped with internal wiring complete to the terminal strip. Once the unit has been lowered, **turn off power** and remove the J-box cover. The terminal strip is attached to the cover. Disconnect temporary pigtail from unit, then complete permanent wiring to electricity and to switches. Wire to connect unit to power supply and to switches should be furnished by installer. Connections should be made in accordance with wiring diagram, and wiring should comply with national and local electrical codes. All operating switches should be "off" before power is connected. AeroLift should be operated and checked prior to installing projector and/or optional ceiling closure.

Operation

When unit is first operated, be cautious! If unit fails to operate when the switch is flipped "down", return switch to "off" and recheck electrical connections before proceeding. Cycle unit down and up several times to confirm satisfactory operation.

220V Single Station Control (CE Approved)—3-position UP-OFF-DOWN switch permits operation to be stopped at any point. Factory set limit switches automatically stop lift when fully down or fully up.

220V Multiple Station Control (Not CE Approved)—Switches are similar in appearance to Single Station Control. Lift stops when switch is released and may be restarted in either direction. Factory set limit switches stop lift automatically when fully up or fully down.

24V Control (CE Approved)—Three-button UP-STOP-DOWN switches stop at any point desired, operate in any sequence. Factory set limit switches automatically stop lift when fully up or fully down. Wireless controls—whether infrared or radio frequency—interface with low voltage control box.

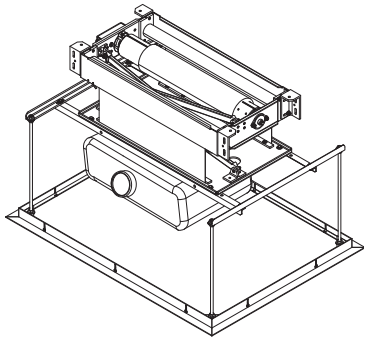
RS232/Ethernet (CE Approved)—Serial communication and network communication optionally available with wall switches, RF or IR remote.

Key Operated Switching (Not CE Approved)—Two kinds of key-operated switches are optionally available with this unit. ① The key-operated power supply switch controls power to the lift and switches. When it is "off", the switches will not operate lift. Key may be removed from the switch in "on" or "off" position. ② A three-position key switch permits the lift to be operated directly by key. In this case, the lift's operator must have a key.

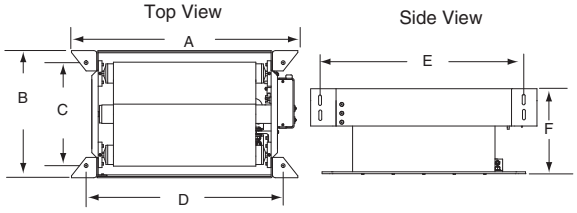
Testing the Safety Limit Switches

The AeroLift 50 and 150 are equipped with two Safety Limit Switches (see "AeroLift—Limit Switch Adjustment (Bottom View)" diagram on page 3). These switches may be damaged during shipping or by rough handling on the job site. Once the AeroLift has been installed in the ceiling, but before the projector and closure are attached, the ***Safety Limits must be tested***. Use a screwdriver or other tool to press and hold the limit switch. While holding down the limit switch, have someone operate the unit. ***If the unit runs up while the limit switch is depressed, the limit switch is broken and must be replaced***. Operating the unit without a functioning Safety Limit Switch could cause the unit's motor to continue operating after the lift is closed, leading to a failure and the possibility of damage or injury. Make sure to test BOTH switches.

Please Note: As weight is applied to the AeroLift, the projector plate may shift slightly. If this occurs, use setscrews on bottom of fabric roller brackets to compensate for shift and level projector plate (see page 3).



AeroLift Mounting Hole Dimensions



Lift	A*	B*	C*	D*	E*	F
AeroLift 50	718	381-343	273-311	673	679	159-972
AeroLift 150	794	365-454	295-333	749	756	159-972

**** Measurements shown in millimeters.***

If you encounter any difficulties installing or servicing your AeroLift 50 or 150, call your dealer or Draper, Inc. in Spiceland, Indiana, 765-987-7999 or fax 765-987-7142.

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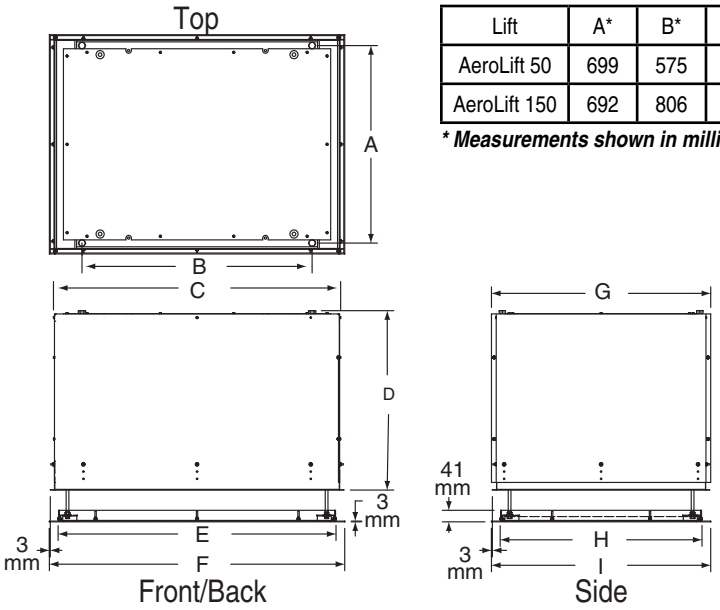
Environmental Air Space Housing, Lift and Closure Dimensions



Lift	A*	B*	C*	D*	E*	F*	G*	H*	I*
AeroLift 50	699	575	748	406-930	717	7768	748	717	768
AeroLift 150	692	806	1008	406-930	976	1037	768	710	768

**** Measurements shown in millimeters.***

Installing Optional Environmental Air Space Housing

The Environmental Air Space Housing is shipped in pieces, and must be assembled by the installer. The height of the Environmental Air Space Housing can be adjusted by up to 5 cm by moving the trim frame to different mounting holes in side panels. It is recommended that an access panel be installed in the ceiling to allow future access.

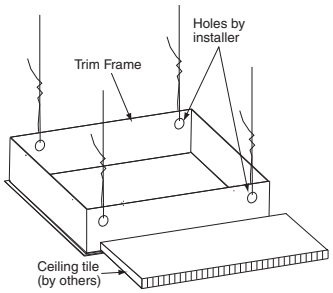
① Attach Environmental Air Space Housing frame to top of AeroLift.
② Install top panel to Environmental Air Space Housing frame.
③ Attach assembly to overhead structure. Allow clearance between Housing top and structure for ease of future access.
④ Install side and end panels, and trim frame.
⑤ If installing a closure, see page 3.

Installing Optional Ceiling Finish Kit

The AeroLift is available with a ceiling finish kit, which consists of the lower section of the Environmental Air Space Housing (trim frame) and the closure panel.

① Install AeroLift as previously described in these instructions.
② Install trim frame in opening. This can be accomplished by suspending with wire or mounting directly to ceiling joists (if space permits).
③ Install projector and attach optional ceiling closure to AeroLift (see page 3).

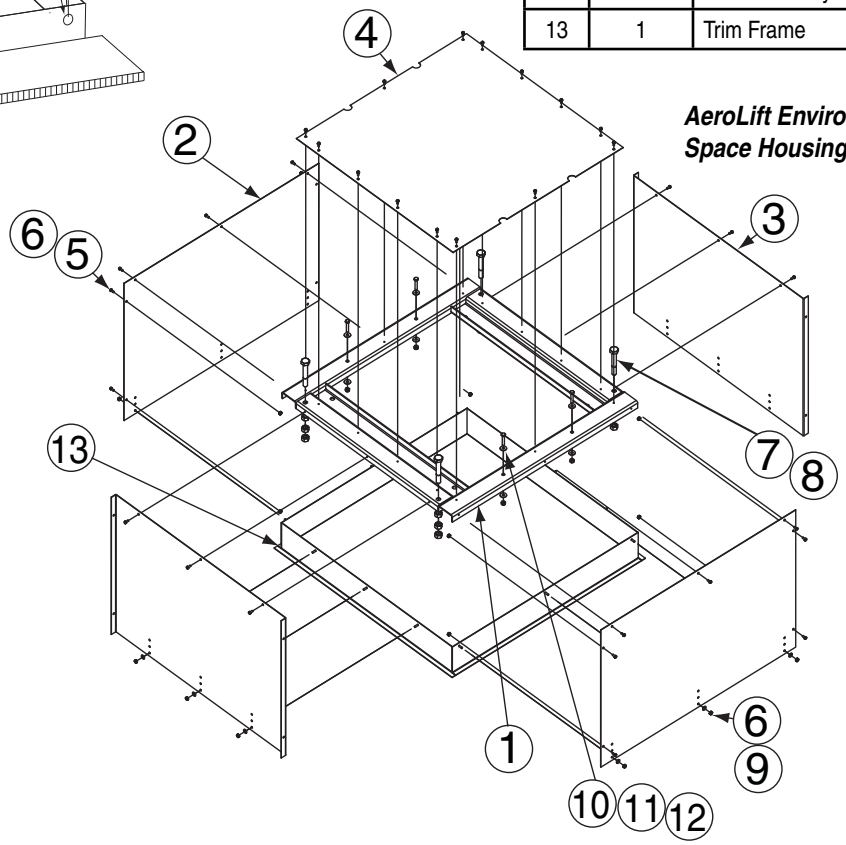
Ceiling Finish Kit



Parts List for AeroLift 50/AeroLift 150 Environmental Air Space Housing

Item	Quantity	Part
1	1	Environmental Air Space Housing Top Frame
2	2	Environmental Air Space Housing End Panel
3	2	Environmental Air Space Housing Side Panel
4	1	Environmental Air Space Housing Top Panel
5	34	#10-32 x 3/8" Hex Head Screw with Zinc Washer
6	20	#8-32 Zinc Keps Lock Nut
7	4	½"-13 x 3½" Zinc Hex Head Screw
8	12	½"-13 Zinc Hex Grd 2
9	12	3/16" ID x 5" OD x 1/16" tk Flat Washer
10	4	¼"-20 x 1½" Zinc Hex Head Screw
11	8	¼" Flat Zinc Washer
12	4	¼"-20 Zinc Nylon Insert Lock Nut
13	1	Trim Frame

AeroLift Environmental Air Space Housing (Exploded View)



220V AeroLift 50/150 by Draper, Inc.

Installing Projector

Draper's optional Universal Projector Mount will hold up to 12 kgs.

① Bolt projector to Universal Mount Arms.
② Bolt Projector Pan with Universal Mount into place on bottom pan.
③ Use center nut and spring-loaded bolts to fine tune picture placement on screen.

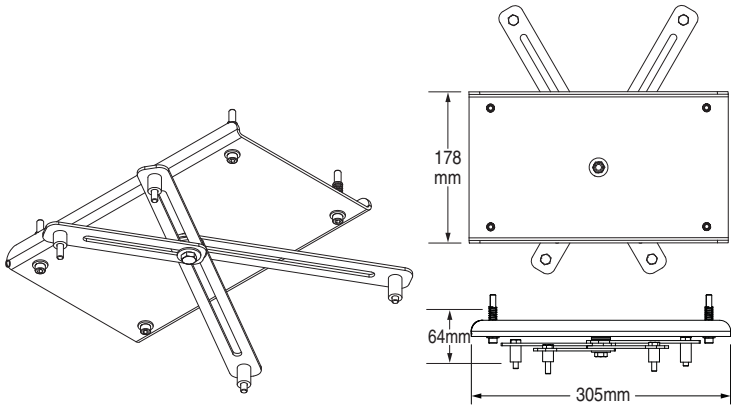
If not using Draper's Universal Projector Mount, generally the video projector should be suspended from the bottom pan according to projector manufacturer's instructions. Maximum projector size is 48 cm x 65 cm x height (depends on Environmental Air Space Housing height) (AeroLift 50) and 63 cm x 89 cm x height (depends on Environmental Air Space Housing height) (AeroLift 150).

The projector plate is not pre-drilled. When drilling initial holes for mounting projector, or if for any reason the hole placement must be changed, completely lower AeroLift before attempting to drill holes. When attaching projector or bracket to plate, make sure screws are short enough that they do not touch the motor/roller above the plate when lift is closed.

Unit and projection system should be operated, checked and adjusted as necessary at this time (see below for limit adjustment procedures).

Video cables and/or power cord can be routed along the stabilizing arm. Cables must not interfere with lift operation.

⚠***Caution:*** *Keep fingers & other objects away from ceiling closure when unit is operating. Serious injury or damage can result.*



Adjustments (see drawing at right)

⚠***Caution:*** *Be sure all switches are in "off" position before adjusting limit switches. Always be prepared to shut lift off manually when new adjustment is being tested.*
Limit switches for the AeroLift are preset at the factory. The "Up" (closed) limit switch is set for fully closed. The "down" (show) limit switch is set for fully lowered. Once unit is in place, the "down" limit switch may need to be changed to stop the AeroLift closer to the ceiling (that is, to raise the "down" position). Limit switches are located on the end of roller, and are accessible by removing the cover of the junction box at the left end of the unit, using a 5/16"Allen wrench. To adjust the limit switches, use a 5/32" screwdriver/allen wrench.

⚠***Caution: It is not uncommon to overheat the motor during initial installation when setting limits. The motor is thermally protected and will stop working temporarily. DO NOT physically pull the unit down when this occurs. Once it has cooled to a safe temperature, it will begin operating again.***

Adjusting "Down" (show) position — "Down" position may be adjusted by turning the white limit switch adjustment socket. Turning the socket clockwise will stop the AeroLift 25 closer to the ceiling. Turning it counter-clockwise will cause the lift to stop at a lower point.

Adjusting "Up" (closed) position — Because the "up" ("closed") position is preset at the factory, Draper does not recommend changing this position using the limit switch. The "up" position of the closure may be changed by changing the length of threaded rod (see instructions for closure installation below). If necessary, however, "up" position may be adjusted by turning the yellow limit switch adjustment socket. Turning the socket counterclockwise creates a higher, or more fully closed position. Turning it clockwise creates a lower "up" (closed) position.

⚠***Caution: Make sure limit switch is set so that the AeroLift 50/150 motor is NOT still running after the lift is closed. If it continues to cycle once the lift is closed, a failure may occur, making the unit descend rapidly and causing damage and/or injury.***

Installing Ceiling Closure Panel

If your AeroLift 50/150 is equipped with a ceiling closure panel, it can be used as is, or in conjunction with a piece of existing ceiling tile. *Please refer to the diagram at right for these instructions.*

① If installing with ceiling tile, you may need to cut tile so that its overall dimensions are the same as (or slightly less than) the closure panel. Place tile into trim frame. Lay closure panel on top (back side) of ceiling tile, and tighten screws to hold in place.
② For AeroLift 150, attach angle brackets to bottom of projector plate (along long ends).
③ For AeroLift 50, attach angle brackets to bottom of projector plate (along short ends). For AeroLift 150, attach short angle brackets to ends of long angle brackets.

⚠***Caution: Make sure bolts and nuts attaching brackets to AeroLift are completely tightened.***

④ Attach 5/16" (8 mm) threaded rods to slots in projector plate or brackets.
⑤ Run unit "up" until bottom pan stops at highest position. Mark position on 5/16" (8 mm) rods even with ceiling level and cut rods to length (removing from pan if convenient).
⑥ Run unit "down" until bottom pan stops at "show" position.
⑦ Attach closure to lower end of 5/16" (8 mm) rods by slipping into four corner slots and secure with nuts above and below slots.

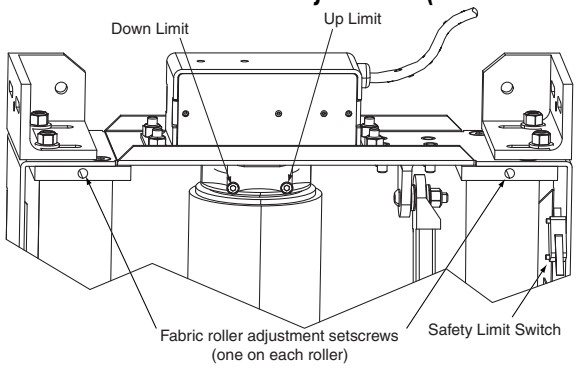
⚠***Caution: Make sure nuts are completely tightened.***

⑧ Run unit "up" again to highest position. Measure distance by which panel fails to reach required "closed" height for surrounding ceiling.
⑨ Run unit "down" then re-adjust mounting of 5/16" (8 mm) rods in traveling grid to raise panel required distance.
⑩ Test unit operation to confirm that panel will stop in closed position just before touching ceiling.

⚠***Caution: DO NOT hang from, "ride" or pull down on the unit. This could create a failure and cause damage and/or injury.***

PLEASE NOTE: Immediately upon completion of the surrounding ceiling, unit should be operated to confirm that optional ceiling closure panel by Draper or by others stops 1/8" short of touching ceiling in closed position. If closure panel touches, the motor may continue operating after the lift is closed. If it continues to cycle once the lift is closed, a failure may occur, making the unit descend rapidly and causing damage and/or injury.

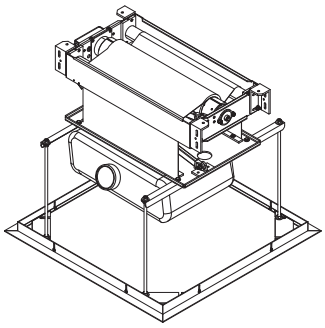
AeroLift —Limit Switch Adjustment (Bottom View)



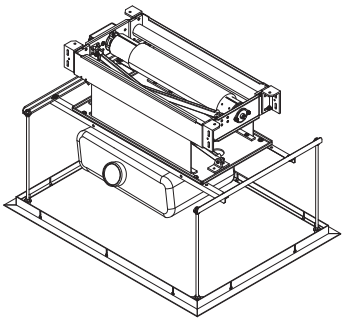
Please Note:

If load is off-center of pan, you may need to adjust the pitch of the fabric rollers. One setscrew is provided on each end of both fabric rollers (see above drawing). Use these to adjust roller pitch to keep entire fabric panel taut, so load is evenly distributed. Use 1/8" (3 mm) hex key to adjust.

AeroLift 50 with Ceiling Closure Panel

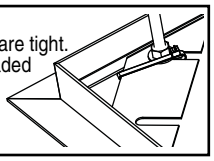


AeroLift 150 with Ceiling Closure Panel

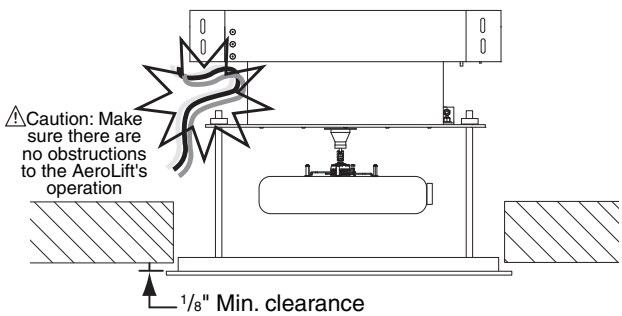


For Additional Safety:

① Be sure the nuts that attach the threaded rods to the closure are tight.
② Wrap a plastic wire tie around the mounting tab and the threaded rod at all four corners of the closure panel (see drawing).
Please Note: Do NOT use a paper-covered or similar wire tie—use only plastic wire ties for maximum safety.



AeroLift Clearance



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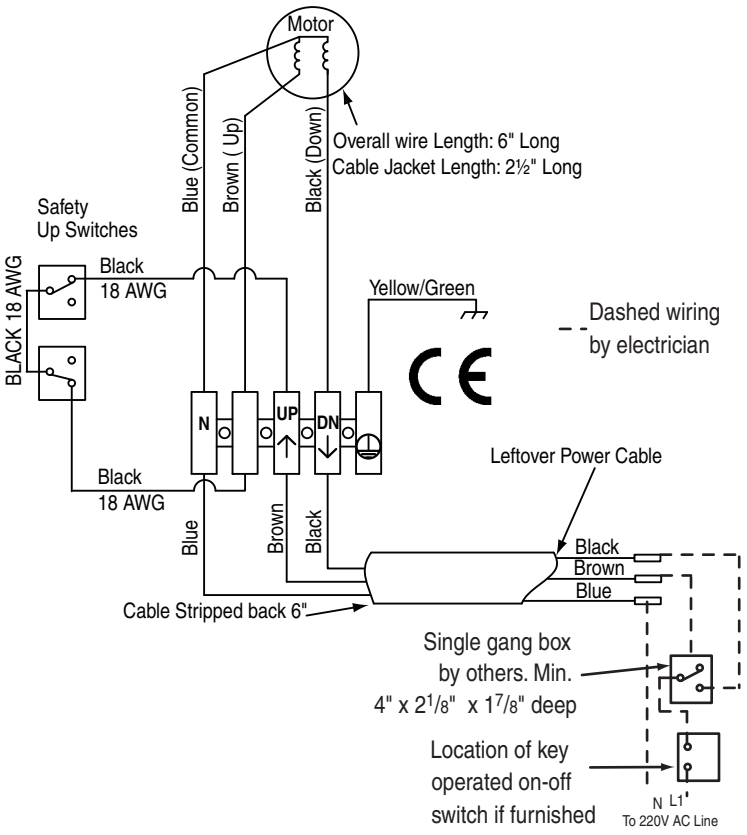
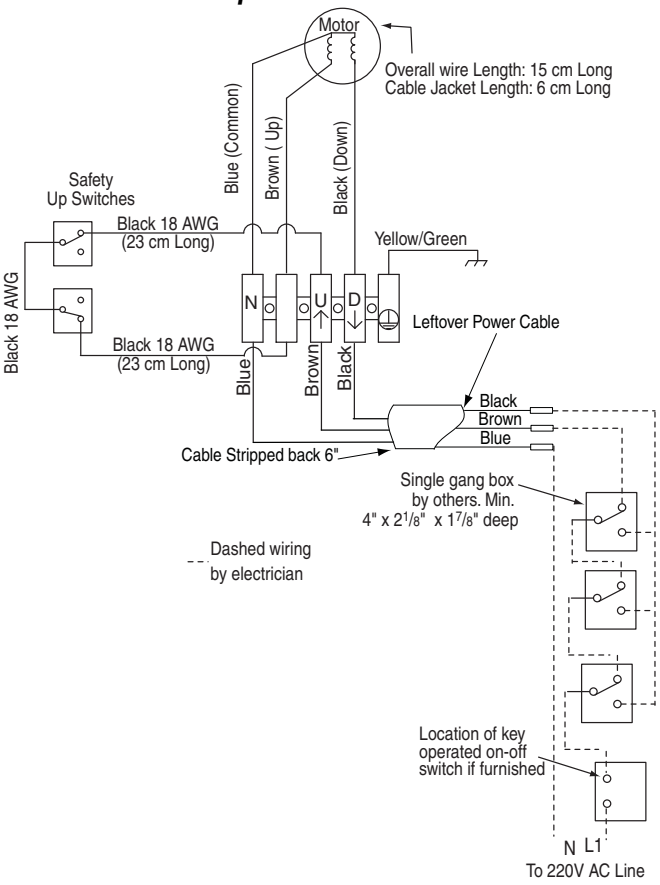
Wiring Diagrams

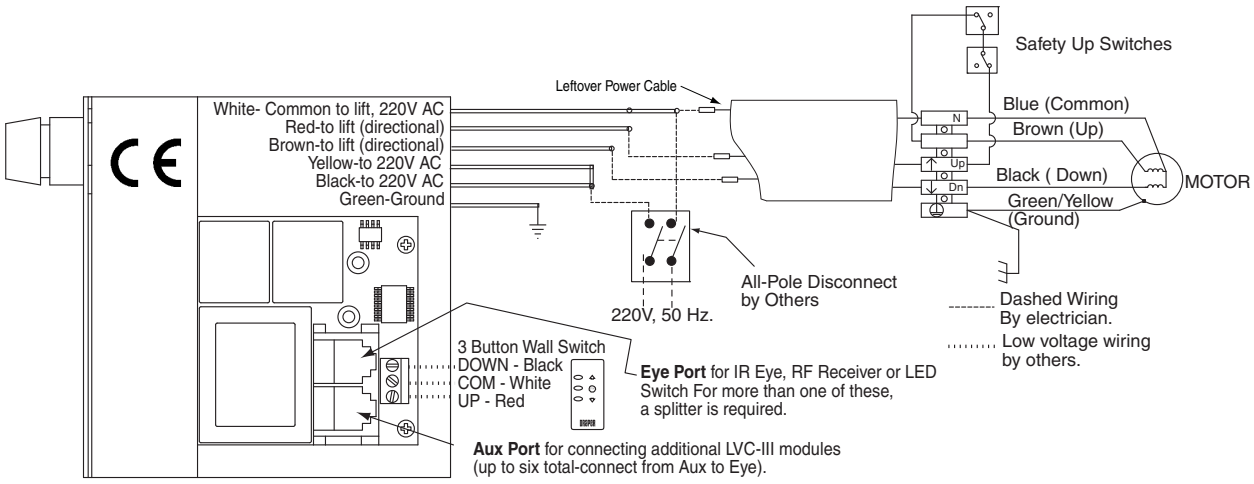
Single Station Control



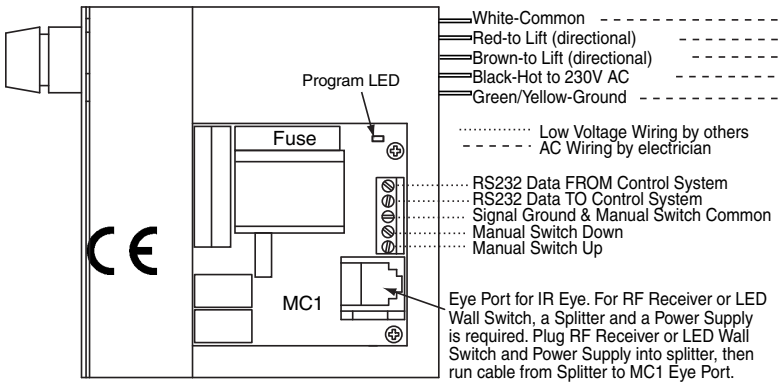
Multiple Station Control



Low Voltage (& Wireless) Control



MC1


White-Common
Red-to Lift (directional)
Brown-to Lift (directional)
Black-Hot to 230V AC
Green/Yellow-Ground
Program LED
Fuse
Low Voltage Wiring by others
AC Wiring by electrician
RS232 Data FROM Control System
RS232 Data TO Control System
Signal Ground & Manual Switch Common
Manual Switch Down
Manual Switch Up
MC1
Eye Port for IR Eye. For RF Receiver or LED
Wall Switch, a Splitter and a Power Supply
is required. Plug RF Receiver or LED Wall
Switch and Power Supply into splitter, then
run cable from Splitter to MC1 Eye Port.

See separate Serial Communication-RS232 Instruction sheet for enabling RS232 with the MC1.